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Deliverable D1.1: Overview of external projects relevant to MARS and detailed plans on how to cooperate with them; detailed communication strategy; production and publication online of the project website

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Dissemination Level				
PU	Public	Х		
PP	Restricted to other programme participants (including the Commission Services)			
RE	Restricted to a group specified by the consortium (including the Commission Services)			
CO	Confidential, only for members of the consortium (including the Commission Services)			



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### Non-technical summary

The implementation of successful external communication is a key to achieving the main objectives of the MARS project. In particular, the cooperation with related EU funded research projects plays a central role. In the first project months, a list of external projects relevant to MARS was prepared, aiming at maintaining this list over the full project duration.

Amongst these external activities we identified three partner projects of specific importance to MARS, as their aims particularly match with the objectives of our project: GLOBAQUA, SOLUTIONS and OpenNESS. The contact with these projects was established at an early stage, inviting the coordinators to the MARS kick-off workshop in February 2014. Extensive consultations with each project coordinator resulted in detailed plans for cooperation. These plans are descripted in this report.

Another objective of the MARS communication and dissemination is to provide clear answers to major stakeholders on how to manage water bodies exposed to multiple pressures. To close the gap between science and policy, and to avoid information overload, the MARS dissemination strategy aims to combine target groups, suitable products and arenas for dialogue and communication. The key stakeholders are river basin managers (particularly in the 16 case study catchments), national environmental agencies responsible for WFD implementation, WFD-CIS groups and MAES freshwater group, DG Environment and EEA.

As an external information channel for a broader audience a project website was set up, together with state-of-the-art communication tools and intranet facilities for storing all project-relevant files. A popular science blog, reaching up to 3,000 readers per month, with weekly posts was successfully taken over from the BioFresh project, and is now operated by the project. Additionally, new and social media channels are fed to reach the public.

Finally, the draft for a general information platform for the freshwater scientific community is presented. In this contribution we present a future outlook on establishing a 'global network for freshwater scientists', targeting at the sustainable onward use of already developed tools and data collections. The principal objective is to merge and synthesise the available information generated by various EU funded projects related to freshwater research.



### List of abbreviations

ATHENA	Athena Research and Innovation Centre in Information, Communication and Knowledge Technologies					
ALTERRA	Stichting Dienst Landbouwkundig Onderzoek					
BioFresh	Biodiversity of Freshwater Ecosystems:					
	Status, Trends, Pressures, and Conservation Priorities					
CIS	Common Implementation Strategy					
CSIC	Institute of Environmental Assessment and Water Research					
DG	Directorate-General					
DoW	Description of Work					
EC	European Commission					
EEA	European Environment Agency					
EHU	University of the Basque Country					
ES	Ecosystem Service					
EU	European Union					
GLOBAQUA	Managing the effects of multiple stressors on aquatic ecosystems under water scarcity					
ICRA	Catalan Institute for water research, Girona, Spain					
JSI	Jožef Stefan Institute, Slovenia					
IBISS	University of Belgrade, Institute for Biological Research					
LMU	Ludwig-Maximilians-Universitaet Muenchen					
MAES	Mapping and Assessment of Ecosystems and their Services					
NC	Natural Capital					
OpenNESS	Operationalization of Natural capital and Ecosystem Services: From concepts to real-world applications					
SOLUTIONS	Solutions for present and future emerging pollutants in land and water resources management					
TNO	Netherlands Organisation for Applied Scientific Research					
UB	University of Barcelona					
UFZ	Helmholtz Centre for Environmental Research					
UNITN	University of Trento					
WFD	Water Framework Directive					
WU	Wageningen University					



# 1. Overview of external projects relevant to MARS and detailed plans on how to cooperate with them

The implementation of successful external communication is key to achieving the main objectives of the MARS project. In particular, the cooperation with related research projects plays a central role. In the first project months, we thus prepared a list of external projects relevant to MARS, aiming at maintaining and updating this list over the full project duration.

Amongst these external activities we identified three partner projects of specific importance to MARS, as their aims particularly match with the objectives of our project: GLOBAQUA, SOLUTIONS and OpenNESS. The contact with these projects was established at an early stage, inviting the coordinators to the MARS kick-off workshop in February 2014. Extensive consultations with each project coordinator resulted in detailed plans for cooperation. Common tasks comprise the participation of MARS scientists in workshops of the other projects, as well as pursuing joint products and publications.

The cooperation with the GLOBAQUA project funded under the same call was subject to specific planning among project leads. According to the MARS Description of Work the collaboration between our two research projects comprises the following aspects:

- Participation in each other's relevant project meetings;
- Discussing and agreeing on harmonised nomenclature in the starting phase of the projects;
- Discussing and, if possible, agreeing scenarios (compare Task 2.6);
- Inviting GLOBAQUA scientist to contribute to key deliverables of MARS, in particular the wiki and the blog;
- Inviting scientists of GLOBAQUA to MARS training sessions, in particular within WP4;
- Analysing options for joint overview publications;
- A joint conference in year 3 or 4 of the projects.

The following chapters specify our plans on how to cooperate with GLOBAQUA, SOLUTIONS and OpenNESS, and provide an overview on other relevant research projects for which cooperation is envisaged.

### 1.1 Cooperation with projects GLOBAQUA, SOLUTIONS and OpenNESS

Several tasks in MARS aims and objectives are largely in agreement with the three partner projects GLOBAQUA, SOLUTIONS and OpenNESS. The two former projects address the effects of multiple stressors on Europe's surface waters, with GLOBAQUA investigating the



issues raising from water scarcity, and SOLUTIONS exploring cumulative effects of present and future emerging pollutants. OpenNESS pursues the operationalization of the ecosystem service concept which is highly relevant for the application of service indicators planned in MARS.

### **1.1.1 Project abstracts**

### GLOBAQUA Managing the effects of multiple stressors on aquatic ecosystems under water scarcity

### **Project summary**

Water and water-related services are major components of the human wellbeing, and as such are major factors of socio-economic development in Europe; yet freshwater systems are under threat by a variety of stressors (organic and inorganic pollution, geomorphological alterations, land cover change, water abstraction, invasive species and pathogens). Some stressors, such as water scarcity, can be a stressor on its own because of its structural character, and drive the effects of other stressors. The relevance of water scarcity as a stressor is more important in semi-arid regions, such as the Mediterranean basin, which are characterized by highly variable river flows and the occurrence of low flows. This has resulted in increases in frequency and magnitude of extreme flow events. Furthermore, in other European regions such as eastern Germany, western Poland and England, water demand exceeds water availability and water scarcity has become an important management issue. Water scarcity is most commonly associated with inappropriate water management, resulting in river flow reductions. It has become one of the most important drivers of change in freshwater ecosystems. Conjoint occurrence of a myriad of stressors (chemical, geomorphological, biological) under water scarcity will produce novel and unfamiliar synergies and most likely very pronounced effects. Within this context, GLOBAQUA has assembled a multidisciplinary team of leading scientists in the fields of hydrology, chemistry, ecology, ecotoxicology, economy, sociology, engineering and modelling in order to study the interaction of multiple stressors within the frame of strong pressure on water resources. The aim is to achieve a better understanding how current management practices and policies could be improved by identifying the main drawbacks and alternatives.

#### **SOLUTIONS**

# Solutions for present and future emerging pollutants in land and water resources management

### **Project summary**

SOLUTIONS will deliver a conceptual framework for the evidence-based development of environmental and water policies. This will integrate innovative chemical and effect-based monitoring tools with a full set of exposure, effect and risk models and assessment options. Uniquely, SOLUTIONS taps (i) expertise of leading European scientists of major FP6/FP7



projects on chemicals in the water cycle, (ii) access to the infrastructure necessary to investigate the large basins of Danube and Rhine as well as relevant Mediterranean basins as case studies, and (iii) innovative approaches for stakeholder dialogue and support. In particular, International River Commissions, EC working groups and water works associations will be directly supported with consistent guidance for the early detection, identification, prioritization, and abatement of chemicals in the water cycle. A user-friendly tool providing access to a set of predictive models will support stakeholders to improve management decisions, benefiting from the wealth of data generated from monitoring and chemical registration. SOLUTIONS will give a specific focus on concepts and tools for the impact and risk assessment of complex mixtures of emerging pollutants, their metabolites and transformation products. Analytical and effect-based screening tools will be applied together with ecological assessment tools for the identification of toxicants and their impacts. Beyond state-of-the-art, monitoring and management tools will be elaborated allowing risk identification for aquatic ecosystems and human health. The SOLUTIONS approach will provide transparent and evidence-based lists of River Basin Specific Pollutants for the case study basins and support the review of the list of WFD priority pollutants.

### **OpenNESS**

### **Operationalization of Natural capital and Ecosystem Services: From concepts to realworld applications**

### **Project summary**

OpenNESS aims to translate the concepts of Natural Capital (NC) and Ecosystem Services (ES) into operational frameworks that provide tested, practical and tailored solutions for integrating ES into land, water and urban management and decision-making. It examines how the concepts link to, and support, wider EU economic, social and environmental policy initiatives and scrutinizes the potential and limitations of the concepts of ES and NC. OpenNESS works in close cooperation with decision makers and other stakeholders.

The specific aims of OpenNESS are:

- To advance conceptual understanding of ES and NC and provide operational frameworks for application of the concepts in real-world management and decision-making situations.
- To examine how existing and forthcoming EU regulatory frameworks can enhance or restore the benefits derived from ES and NC using multi-scale scenario approaches.
- To develop and refine approaches for mapping and modeling the biophysical control of ES that can be used to assess the effectiveness of mechanisms, instruments and best management practices for sustaining ES delivery in the face of multiple uncertain drivers whilst conserving biodiversity.
- To develop hybrid methodologies that address trade-offs, synergies and conflicting interests and values in the use of ES through a combination of monetary, non-monetary



and deliberative methods within multi-criteria and Bayesian approaches to decision support.

- To apply the concepts and methods developed and refined in the project to concrete, place-based case studies in a range of social-ecological systems with stakeholders and analyse the implications of local, regional and EU level decisions on the ES flows and use in other parts of the world.
- To translate the results into policy recommendations and integrate the outputs in a Menu of Multi-Scale Solutions and associated datasets that are available for ES users and managers as well as decision-makers.
- To disseminate the results and to promote and maintain science-policy dialogue on the use of the concepts of ES and NC in sustainable land, water and urban management.



# 1.1.2 Plans of cooperation (incl. relevant tasks and task leads involved, outline of cooperation and timeframe)

This section outlines the cooperation planned between MARS and each of the three partner projects described above, specifying the project convenors and timeframes. The topics presented arose from drafting possible options for cooperation among the project coordinators of MARS (Daniel Hering, Sebastian Birk) and GLOBAQUA (Alícia Navarro Ortega, Damià Barceló Cullerés; CSIC), SOLUTIONS (Rolf Altenburger; UFZ) and OpenNESS (Kurt Jax; UFZ) during the MARS kick-off meeting on Mallorca (February 17-21, 2014).

The envisaged cooperation covers regular communication activities among projects, exchanging data and information on common tasks, contributing to the MARS tools and designing outreach activities like joint policy briefs and scoping papers. The project convenors specified below were asked to take the responsibility for the individual tasks of cooperation, supported by the project coordinators. The timeframe is indicative of the relevant project phase when joint efforts are required.

### A. GLOBAQUA & SOLUTIONS

### i) Restricted areas on the websites accessible for members of the partner projects

The MARS website includes a restricted intranet area (<u>http://www.mars-project.eu/intranet</u>), which is used by the consortium as a central storage and exchange platform for all project-relevant files and documents. For members of the partner projects access to special folders or to relevant documents will be enabled to support the collaboration on common documents.

Convenor: MARS: Jörg Strackbein (UDE) Timeframe: anytime, on demand

### ii) Blog posts on GLOBAQUA and SOLUTIONS on the Freshwater blog

The Freshwater blog run by the MARS project (<u>http://www.freshwaterblog.eu</u>) offers unique opportunities to communicate relevant topics related to our research to a broader audience. The scientists of GLOBAQUA and SOLUTIONS are invited to propose themes for blog posts dealing with specific aspects of their work.

Against this background, a first article promoted by SOLUTIONS was posted on July 3, 2014, entitled "Chemical pollution threatens Europe's freshwaters"<sup>1</sup>, summarizing the main findings of a recent scientific publication on the first continental scale 'risk assessment' of the impact of toxic organic chemicals on freshwater ecosystems.

<sup>&</sup>lt;sup>1</sup> <u>http://biofreshblog.com/2014/07/03/chemical-pollution-threatens-europes-freshwaters/</u>



A video interview with project coordinator of GLOBAQUA Damià Barceló to introduce the project is already produced and the publication on the MARS website and blog is scheduled for August 2014. The editorial board of the MARS blog is also in close contact with the coordinators of GLOBAQUA and has discussed upcoming blog posts.

Convenors: MARS: Sebastian Birk (UDE) GLOBAQUA: Alicía Navarro Ortega (CSIC) SOLUTIONS: David López Herráez (UFZ) Timeframe: continuous

# iii) Descriptive papers of GLOBAQUA, MARS and SOLUTIONS projects in a special issue of multiple stressors

All three projects prepared manuscripts for a special issue of the SCARCE project (http://www.scarceconsolider.es), coordinated by the GLOBAQUA managers. The MARS contribution, entitled "Managing aquatic ecosystems and water resources under multiple stress -An introduction to the MARS project" published July 2014 was in (doi: http://dx.doi.org/10.1016/j.scitotenv.2014.06.106).

Convenors: MARS: Daniel Hering (UDE) GLOBAQUA: Alicía Navarro Ortega (CSIC) Timeframe: accomplished

### iv) Use of MARS meta database to store meta data from GLOBAQUA and SOLUTIONS

It was decided to further use the BioFresh metadatabase for the purposes of MARS (http://data.freshwaterbiodiversity.eu/aboutmdb).

Within the first months of the project we evaluated if the BioFresh metadatabase is suitable for MARS and to which extend it needs to be adapted to the MARS requirements. For this purpose a questionnaire – which was distributed during the kick-off meeting – was evaluated to assess the expected data flows and contributions to the metadatabase. In an additional step the case study coordinators were addressed to specify their needs. The MARS metadatabase development team at BOKU also met with the case study lead (BOKU) of the Drava catchment to check the metadatabase field by field and evaluate its fitness for use. It turned out that only minor additional fields are needed, but some adaptions should be made to generalise the metadatabase (i.e. remove BioFresh-specific fields) and to further improve the user-friendliness and the data storage system in the background, respectively.

As soon as the internal adaptation process for MARS is finished we will ask for feedback of the partner projects to further adapt the metadatabase for external needs if necessary. With the integration of the metadatabase into a more general framework of a freshwater information



platform/network as planned for autumn 2014 (see Chapter 4) we will invite a broad audience of EU funded projects and institutes on a global level to contribute their metadata as a next step.

Convenors: MARS: Astrid Schmidt-Kloiber (BOKU) GLOBAQUA: Antoni Ginebredda (CSIC) SOLUTIONS: Bernd Gadwlik (JRC) Timeframe: in process; first version: summer 2014; integration into platform: autumn 2014

### v) Joint list of stakeholders

To facilitate swift implementation and uptake of project results, stakeholders will play an active role throughout the project in evaluating and assessing the "fitness for purpose" of the project results and deliverables. Stakeholders will be involved and informed throughout the project lifespan through interactive workshops and dissemination activities. Compiling a list of relevant stakeholders is thus indispensable for the projects' success. We agreed on exchanging the lists of relevant stakeholders assembled within each project.

Convenors: MARS: Anne Lyche Solheim (NIVA), Sebastian Birk (UDE) GLOBAQUA: Philippe Ker Rault (ALTERRA) SOLUTIONS: Ruth Hammerbacher (hammerbacher) Timeframe: first half of the project

### vi) Integration of GLOBAQUA and SOLUTIONS results into the MARS wiki

The MARS wiki information system on a wide range of topics associated to River Basin Management under multiple stress will provide access to information and practical tools generated in MARS and other projects. Structure and contents of the project's wiki (Task 7.1) are currently discussed in detail. Basically, we aim for some clearly defined areas, in which we could cover the relevant terms exhaustively (such as "ecosystem services" or "lake restoration measures"). The collaborators of the partner projects are invited to contribute to the wiki with their results.

Convenors: MARS: Harm Duel, Tom Buijse (DELTARES) GLOBAQUA: Alicía Navarro Ortega (CSIC) SOLUTIONS: David López Herráez (UFZ) Timeframe: second half of the project

### vii) Joint policy briefs and scoping papers

The GLOBAQUA, MARS and SOLUTIONS projects aim at providing applied solutions for river basin management under multiple stress. Their outcomes will be of high relevance for policy-makers and water managers. Joint efforts to design common policy briefs and scoping



papers are of specific benefit as the members of the three consortia represent a significant share of the scientific community engaged with applied research on aquatic systems in Europe.

Convenors: MARS: Daniel Hering, Sebastian Birk (UDE) GLOBAQUA: Damià Barceló Cullerés, Alicía Navarro Ortega (CSIC) SOLUTIONS: Werner Brack, Rolf Altenburger (UFZ) Timeframe: second half of the project

### **B. GLOBAQUA**

### i) Joint scenario development

Both MARS and GLOBAQUA apply scenarios to project multi-stressor conditions and their effects on the aquatic environment into the future. These scenarios define climate and land use changes at the river basin and European scale for selected time-periods to guide the modelling process. Scenario development requires the selection of appropriate storylines for possible futures, using consolidated estimates about how socio-economic and natural drivers change.

We plan to communicate our approach for scenario development to GLOBAQUA, starting a productive exchange on the topic. The aim is to ensure similar outlines in the storylines adopted by the projects.

Convenors: MARS: Marta Faneca Sànchez (DELTARES) GLOBAQUA: Ralf Ludwig (LMU), Kasper Kok (WU) Timeframe: first year of the project

#### ii) Link of the approaches to analyse and evaluate ecosystem services

Analysing and evaluating ecosystem services is highly case-dependent. However, the projects will benefit from exchanging the frameworks designed for the context of the particular casestudies. In this regard, cooperation is initiated and will be followed up through regular communication among project convenors.

Convenors: MARS: Sebastian Birk (UDE), Bruna Grizzetti (JRC) GLOBAQUA: Vassilis Skianis, Phoebe Koundouri (ATHENA) Timeframe: first year of the project

### iii) Interchange of students between both projects

GLOBAQUA will offer several courses during the project duration. For MARS students, places in these courses will be available under the same conditions as for students in GLOBAQUA. The following courses are planned (according to the GLOBAQUA DoW):



- Course 1 Multi-scale modelling of surface and subsurface hydrology (UNITN Trento, Italy, month 14)
- Course 2 New biological techniques of analysis for the rapid screening of organic contaminants (CSIC, Barcelona, Spain, month 23)
- Course 3 The use of stable isotopes in investigations of hydrological processes and climate change (JSI, Ljubljana, Slovenia, month 35)
- Course 4 Modelling of ecosystem services, from the reach to the basin scales (ICRA, Girona, Spain, month 42)
- Course 5 Economics of Sustainable Water Management in accordance to the WFD and MEA, (ATHENA, Athens, Greece, month 49)
- Course 6 Training on knowledge brokerage for river basin managers and scientists (TNO, Delft, The Netherlands, month 53)

MARS students can join GLOBAQUA samplings in the different case-studies. A common system to share lists of work opportunities in both projects is being discussed. Sessions and get-togethers where students from both or more projects exchange their research projects, results, difficulties would be another option.

Convenors: MARS: Nadine Ruchter (UDE) GLOBAQUA: Isabel Munoz (UB) Timeframe: continuous

# iv) Shared training on stakeholder workshop facilitation and shared activities for dissemination of workshop results to the decision makers

The involvement of stakeholders plays a significant role in the evaluation and communication of ecosystem services within the case-studies. Stakeholder workshops are particularly crucial to elicit and validate the values of the ecosystem, to gain comments on the scenarios and to test the plausibility of the computer based model outputs. Furthermore, the understanding and perception of the case-studies' population regarding water issues needs to be assessed, including their reaction towards policy and the proposed mitigation measures. Relevant aspects also comprise the commenting of research findings and the testing of acceptance for proposed measures with local stakeholders. MARS will benefit from the expertise gathered in GLOBAQUA by joining the stakeholder activities planned in GLOBAQUA, and inviting GLOBAQUA specialists to the relevant MARS workshops.

Convenors: MARS: Teresa Ferreira (ULisboa), Sebastian Birk (UDE) GLOBAQUA: Philippe Ker Rault (ALTERRA) Timeframe: continuous



### v) Joint conceptual paper developing a strategy to assess stream ecological status

MARS and GLOBAQUA members are cooperating on a joint conceptual paper together with colleagues from the Cawthron Institute, New Zealand. The paper is in advanced state and will be submitted this summer. The working title is "River doctors".

In the paper it is discussed that much can be learned in river assessment and management from medical doctors, because the fundamental methodological issues posed to environmental managers are exactly the same as diagnosing, treating and preventing illness. A rich conceptual framework and a wealth of medical health protocols tested by the ravages of time suggest that a systematic examination of approaches to assess and improve human health holds great potential to benefit environmental assessment and management. The main challenge remaining is to translate the concepts and practices used by medical doctors into environmental applications. The paper illustrates parallels, identifies some differences, and gives directions on how to implement the medical approach in an environmental context focusing on rivers.

Convenors: MARS: Mark Gessner (IGB) GLOBAQUA: Arturo Elosegi (EHU) Timeframe: in process, submission summer/autumn 2014

### vi) Use of common parameters in the experiments ('benchmark indicators')

Both projects will conduct manipulative multifactorial experiments addressing various climaterelated extremes in multiple-stressor contexts. In MARS, there will be four coordinated flume experiments in northern, Central European and Mediterranean rivers. We will assess the combined impacts of extreme climatic events (floods, low flow, thermal extremes, extreme mixing and pulsed DOM loading), nutrient loading and morphological alterations on selected core indicators, including ecological status, ecosystem structure, function and resilience in ecosystem service delivery.

To allow for a joint synthesis of the experimental results between MARS and GLOBAQUA, the use of common response variables such as 'benchmark indicators' is envisaged. As a first step in this collaboration, the standard protocols for the MARS river experiments are exchanged with the leader of the experimental tasks in GLOBAQUA.

Convenors: MARS: Rafaela Schinegger, Stefan Schmutz (BOKU) GLOBAQUA: Francesc Sabater (UB) Timeframe: First year of the project



### vii) Common session proposal between GLOBAQUA and MARS at the SETAC meeting in 2015

Both projects will organise a common session at the 25<sup>th</sup> annual meeting of the Society of Environmental Toxicology and Chemistry (SETAC) in Barcelona on 3-5 May 2015 (<u>http://barcelona.setac.eu</u>). Tentative title of the session: "Prioritization and management of multiple stressors in river catchments: experience from EU-funded projects".

Convenors: MARS: Sebastian Birk (UDE) GLOBAQUA: Alicía Navarro Ortega (CSIC) Timeframe: May 2015

# iix) Use of the experimental results of both projects for the elaboration of integrated/synthesis papers

The cooperation with GLOBAQUA has started with a discussion on possible options for joint synthesis publications, for instance regarding the effectiveness of monitoring at large rivers. This can be extended towards guiding international river basin commissions in their preparation of management plans. Further focus can be placed on the influence of policy on the practice of nature/biodiversity conservation activities, especially against the background of different socio-economic situations (e.g. Sava River Basin).

Convenors: MARS: Laurence Carvalho (NERC) GLOBAQUA: Momir Paunović (IBISS) Timeframe: Second half of the project

# ix) Joint GLOBAQUA-MARS conference, including Special Issue deriving from the conference

Both projects will organise joint conference to facilitate the international communication on the research outcomes of GLOBAQUA and MARS, also addressing other relevant scientific activities in the field of water resource management under multiple stress. The collaboration task will include editing a special issue of a pertinent scientific journal.

Convenors: MARS: Sebastian Birk (UDE) GLOBAQUA: Alicía Navarro Ortega (CSIC) Timeframe: January 2017 and beyond



### **C. SOLTUTIONS**

### i) Joint contribution to Common Implementation Strategy (CIS) process

Organising our contribution in a way that one project is represented in each of the CIS groups is beneficial. As MARS is focussing on ecological status, E-flows, measures, groundwater and floods, we will try to be present at all relevant CIS meetings. SOLUTIONS will attend the meetings of WG Chemicals that MARS does not target. Both projects will cooperate by exchanging ideas (presentations) and meeting notes (esp. those relevant for both projects).

Convenors: MARS: Anne Lyche Solheim (NIVA), Sebastian Birk (UDE) SOLUTIONS: Annemarie Wezel (KWR) Timeframe: continuous

### ii) Joint analysis of Joint Danube Survey data

The Joint Danube Survey data investigated as part of the large river task in MARS are complemented by analyses on the contaminant loads of amphipods (freshwater shrimps). Further collaboration on related topics is envisaged.

Convenors: MARS: Wolfram Graf (BOKU) SOLUTIONS: Werner Brack (UFZ), Jaroslav Slobodník (EI) Timeframe: second half of the project

#### **D. OpenNESS**

### i) Use of Ecosystem Service valuation methods developed by OpenNESS in MARS, in particular in Task 2.2 (Ecosystem Service methodology)

The valuation method of Ecosystem Services developed in OpenNESS will be used as a blueprint for the valuation methods applied within the MARS case-studies. Despite the highly case-specific character of service valuations, exchange between MARS and OpenNESS is facilitated based on the fact that the activities are carried out by the same institute (i.e. JRC).

Convenors: MARS: Bruna Grizzetti (JRC) OpenNESS: Denis Lanzanova (JRC) Timeframe: first year of the project

#### ii) Harmonisation of Ecosystem Service terminology

The OpenNESS project produces synthesis papers, e.g. on biodiversity and ecosystem services and the cascade model conceptual framework. These papers will be used by MARS to



harmonise the terminology us, both in Task 2.2 (Ecosystem Service methodology) and in the glossary on the project website (http://mars-project.eu/index.php/glossary.html.)

Convenors: MARS: Christian Feld (UDE) OpenNESS: Kurt Jax (UFZ) Timeframe: first year of the project

### iii) Presentation of MARS on one of the next OpenNESS meetings

The MARS project will be presented at the next OpenNESS meeting to communicate approaches and first results to the OpenNESS consortium.

Convenors: MARS: Sebastian Birk (UDE) OpenNESS: Kurt Jax (UFZ) Timeframe: spring 2015

### iv) Joint conceptual paper on commonalities and differences of the Ecosystem Services approach and the WFD

A joint conceptual paper is envisaged, addressing the following aspects: In face of the substantial scientific and administrative challenges posed by the requirements to implement the European Water Framework Directive, the ecosystem service-based approach is proposed to support the implementation process. To do so, the relationship between the WFD and the Ecosystem Approach needs to be appraised against the main WFD objective of reaching good ecological status. By pursuing an indicator-oriented, biophysical perspective we aim at comparing the basic features of both frameworks and review existing knowledge on linking ecological status and services.

Convenors: MARS: Sebastian Birk (UDE), Laurence Carvalho (NERC) OpenNESS: Kurt Jax (UFZ) Timeframe: first half of the project



#### v) Common policy briefs on water and ecosystem services

Operationalization of the Ecosystem Service approach in water resource management is relevant for water managers and policy-makers. The cooperation between MARS and OpenNESS will allow for streamlining the policy input of these projects with regard to optimal management solutions of multi-stressor conditions, applying the Ecosystem Service approach in a pragmatic manner. We envisage to draft common policy briefs addressing the relevant aspects to be considered by policy-makers.

Convenors: MARS: Daniel Hering, Sebastian Birk (UDE) OpenNESS: Kurt Jax (UFZ) Timeframe: second half of the project

### vi) Cooperation in case studies, in particular the Danube catchment

One case-study addressed in OpenNESS is the lower Danube catchment (see <u>http://www.openness-project.eu/node/43</u>). This coincides with the locality of the Eastern European case-study addressed in MARS. Despite differing research objectives both projects may benefit from exchanging approaches and results. Thus, the planning for future cooperation between the two working groups responsible for the Danube study has been initiated.

Convenors: MARS: Jenica Hanganu (DDNI) OpenNESS: Angheluta Vadineanu (UB-DSES) Timeframe: second half of the project



### **1.2 Other relevant projects**

In addition to the targeted collaboration activities with GLOBAQUA, SOLUTIONS and OpenNESS described above, MARS works together with many related national and international research projects via internal linkages in the MARS consortium. The various institutes participating in MARS are also engaged in other research activities with often complementary objectives. MARS will benefit from the harmonised research approaches that contribute added value to the workflows in our project. The external research activities presented in the following are of special relevance to MARS.

### **REFORM** – REstoring rivers FOR effective catchment Management

The REFORM project provides tools to support cost-effective implementation of restoration measures and monitoring. REFORM improves existing tools and develops new ones to increase the success and cost-effectiveness of restoration measures and procedures to monitor the biological responses to hydromorphological changes with greater precision and sensitivity. Both the REFORM wiki and their studies on ecological flows represent relevant topics followed up in MARS.

### EartH2Observe – Global Earth Observation for Integrated Water Resource Assessment

EartH2Observe integrates available global earth observations, in-situ datasets and models and constructs a global water resources re-analysis dataset of significant length (several decades). The resulting data will allow for improved insights on the full extent of available water and existing pressures on global water resources in all parts of the water cycle. The project will support efficient and globally consistent water management and decision making by providing comprehensive multi-scale (regional, continental and global) water resources observations. MARS will benefit from the results gained in EartH2Observe regarding the opportunities of remote sensing-derived evidence.

### **DESSIN** – Demonstrate Ecosystem Services Enabling Innovation in the Water Sector

DESSIN demonstrates and promotes innovative solutions for water scarcity and water quality, including the implementation of the Water Framework Directive, and shows the value of those solutions for the water sector and society by also demonstrating a methodology for the valuation of ecosystem services as catalyser for innovation. By this twofold approach, DESSIN will be able to demonstrate how innovative solutions in the water cycle can increase the value of the services provided by freshwater ecosystems, enabling a more informed selection of the most promising solutions with regard to their impact on the water body and their economic implications. Especially the methodology for the valuation of ecosystem services will facilitate related activities in MARS.



**DURERO** – Duero (Douro) River Basin: Water resources, water accounts and target sustainability indices

The main goal of the DURERO project is to develop target sustainability indices based on the development of specific water resources balances through the compilation of water available data in the transboundary Duero (Douro) River Basin district, which runs through Spain and Portugal. The diagnoses on water resources and sustainability indices will be used to highlight the best strategies to prevent water scarcity in the river basin. The basin models for the Douro will be run in parallel to the Tagus model designed in MARS.



### 2. Detailed communication strategy

Here we define the overarching communication objectives of MARS, to set out a guide on how to promote the project among stakeholders, engage the target audience and maximize the uptake of project results. The strategy will be continuously updated and refined throughout the project's lifespan, to account for developments and findings.

MARS is a four-year large research project launched in February 2014 that will support managers and policy makers in the practical implementation of the European Union Water Framework Directive 2000/60/EC (WFD), of related legislation and of the Blueprint to Safeguard Europe's Water Resources. The impacts of multiple pressures on aquatic ecosystems and their services are poorly understood and the extent to which these impacts can be effectively reversed or mitigated lacks scientific rigor. MARS will conduct new research and synthesize existing knowledge concerning effects and management of multiple stressors in surface water and groundwater bodies. MARS results will underpin advice to the 3<sup>rd</sup> RMBP cycle and the revision of the WFD; and will develop new integrated tools for diagnosing and predicting multiple stressors in water resource management.

The MARS consortium is comprised of 19 research institutes with expertise in ecology, hydrology, modelling and environmental assessment, as well as five water boards and environment agencies. MARS will engage with on-going and finalized European initiatives addressing related topics, thus acting as an integrating project. Work will be organized at the scales of water bodies, river basins and Europe; at each scale there is a direct link to water managers and decision makers.

Goals of MARS are (1) to provide a framework for improving the success of mitigation and restoration measures for water bodies exposed to multiple pressures and (2) to assess more effectively the state, future scenarios and ecosystem services of rivers, lakes and connected groundwater systems, as well as transitional waters.

The present communication and dissemination strategy is structured as follows:

Section 2.1 sets out the key objectives of the strategy

Section 2.2 describes the key target groups

Section 2.3 provides guidance on the key communication and dissemination tools

Section 2.4 presents an overview of the main communication and dissemination tasks and activities (work plan)

Sub-Sections outline the work plans for each of the four main tasks:

- Task 8.2 Guidance to River Basin Managers
- Task 8.3 Interactions with WFD-CIS groups and MAES



- Task 8.4 Input to WFD revision
- Task 8.5 Cross-cutting communication
- Section 2.5 presents the schedule of the major dissemination and communication activities
- Section 2.6 discusses the role of the MARS advisory board
- Section 2.7 lists key proxy indicators for measuring the success of communication and dissemination

Section 2.8 gives a brief overview on the visual identity of the project

### 2.1 Dissemination and communication objectives

The dissemination strategy of MARS follows the rules laid down in the document "Communicating EU research & innovation":

(http://ec.europa.eu/research/socialsciences/pdf/communicating-research\_en.pdf), the recommendations given in the ROADMAP for uptake of EU Water Research in Policy and Industry (SPI Water Cluster 2012) and the CIS-SPI Activity report 2010 to 2012 (European Commission and ONEMA 2013).

The main objective of MARS communication and dissemination is to provide clear answers to major stakeholders on how to manage water bodies exposed to multiple pressures. To close the gap between science and policy and avoid information overload, the MARS dissemination strategy aims to combine target groups, suitable products and arenas for dialogue / communication.

MARS's communication objectives are to:

- disseminate and support the uptake of project outputs to selected relevant communities (river basin authorities/water managers (especially at the MARS case study sites), national environment agencies, policy makers at EU, national and local scale through the Common Implementation Strategy of the WFD;
- engage directly with practitioners and relevant stakeholders in the development of the applications and tools delivered by the project;
- provide policy-relevant documentation and to advise policy makers and practitioners on cost-effective, sustainable measures to improve the status of rivers, lakes, connected groundwater bodies and transitional waters exposed to multiple pressures;
- provide timely inputs to the WFD revision process through targeted interactions with the relevant WFD-CIS groups, based on a compilation of recommendations from a broad scientific audience as well as from the science-policy dialogue;
- increase visibility and awareness of issues associated with the management of aquatic ecosystems exposed to multiple pressures.



### 2.2 Target groups

To facilitate swift implementation and uptake of project results, stakeholders will play an active role throughout the project in evaluating and assessing the "fitness for purpose" of the project results and deliverables. The consortium has both scientific and applied partners, who represent parts of the stakeholder community, reaching out to a wide network of end-users and stakeholders across Europe. Stakeholders will be involved and informed throughout the project lifespan through interactive workshops and dissemination activities.

The target audience consists of the groups of stakeholders that will benefit from the results of the project. The communication strategy will maximize transfer and uptake of useful results and other outputs within each group forming the target audience.

The following have been selected as the **principal target audiences** of MARS, for which specific content and events will be provided with the aim of consultation/participation:

- River basin level: Organisations involved in the planning and practice/ implementation of river basin management:
  - Water managers in the 16 case-study catchments of MARS (WP4)
  - River basin managers elsewhere (mainly through CIS guidance inputs)
  - River restoration professionals (local consultancies)
  - NGOs & local river trusts
  - (major) international river organizations
  - International network of basin organization (INBO) and other equivalent umbrella's organizations
- European and national policy level:
  - DG-Environment, incl. their WFD Consultancies (e.g. WRc, COWI)
  - EEA and its topic centre: ETC-ICM
  - WFD-CIS groups, incl. Water Directors
  - National Environmental Agencies
  - MAES freshwater group (Working group on Mapping and Assessment of Ecosystems and their Services), linked to the EU Biodiversity 2020 strategy

The following countries are represented in MARS by individual partners: Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Netherlands, Norway, Portugal, Romania, Slovenia, Spain, Turkey and United Kingdom.

It is expected that dissemination at the national and regional levels will be more intensive in these countries than other countries not represented in MARS, although efforts will be made to disseminate outputs through additional existing networks. The wider audience will be targeted via applied partners, such as ICPDR or observers, such as Living Rivers Foundation and other NGOs.



Besides the above mentioned principal target audiences, **additional target groups** will be indirectly integrated in the dissemination process and informed through publicly accessible channels such as the project newsletters, the blog and the wiki (Task 7.1):

- European institutions:
  - With interest in the status of the European environment, e.g. . Joint Research Center (JRC), European Environment Agency (EEA)
  - Promoting research, especially DG Research
- Additional River basin management stakeholders:
  - Consultants and private sector companies, commissioned by authorities to work on river basin management
  - Sectoral stakeholders active in the following sectors: agriculture, hydropower, navigation, tourism /recreation and fisheries
  - Environmental NGOs, charities and voluntary organisations
- Academic institutions, researchers and students:
  - Scientists in MARS
  - Scientists in other related EU projects
  - Students (PhD and higher, as well as undergraduate and master level)
- General public
  - Media
  - LinkedIn groups (e.g. river restoration, fish migration)

### Dissemination in MARS case studies (from DoW)

WP4 of MARS is investigating the effects of multiple pressures in 16 "flagship" river basins (case studies) throughout Europe. Within WP4, each of the case studies will target local and regional water managers. Most of these river basins are already well documented and known in the direct vicinity, but they could also act as "best practice examples" and encourage water boards elsewhere for implementing ambitious measures in the third RBMPs.

The target is at least one major dissemination event per case study, i.e. a local or combined regional workshop. On this event, both the authorities responsible for the river basin and MARS scientists will be present. While the water managers will give presentations about practical implementation (including their experiences with convincing land owners and other sector stakeholders), the scientists will give targeted information and present tools that can be used to support the 3<sup>rd</sup> RBMPs. Water managers will also be asked about the usefulness of MARS tools in answering questions related to practical implementation needs. Moreover, feedback from local authorities will be considered for the MARS final guidance report.



At the MARS mid-term meeting and final conferences, a broader overview of these best practice examples throughout Europe will be presented with the aim of making the river basin managers feel part of a European community on river basin management. Further, options for implementing similar measures in other catchments will be discussed.

### 2.3 Means of communication and dissemination

This section provides guidance on the communication and dissemination tools that will be used in MARS. In addition to the tools presented below, MARS will make use of the existing communication instruments of its partners. The latter include websites, newsletters and social media to which partners participate. This will enhance MARS's outreach among the stakeholders.

The main means of communication and dissemination that will be used in MARS are specified for the principal target stakeholders at the various levels, as well as for the additional target groups:

- All levels:
  - Policy briefs summarising key results will be produced and disseminated to the principal stakeholders throughout the project, concerning effects and management of multiple stressors, including online tools (e.g. WISE-RTD, wiki, DG ENV "Science for the Environment policy"

http://ec.europa.eu/environment/integration/research/newsalert/index\_en.htm )

- River basin level:
  - Tailored seminars for river basin managers in the 16 case-studies advising the 3<sup>rd</sup> RBMP cycle on how to diagnose and mitigate multiple stressors, facilitating the actions of the Blueprint (organised by WP4 in dialogue with Tasks 2.4 /6.4 /7.3 /8.2).
  - Broader regional workshops for larger River Basin Districts (e.g. Danube, Rhine...), separate workshops and/or joint workshops at the mid-term and final MARS conferences
  - RBM guidance document
- EU and national policy level:
  - Presentation and discussion of MARS plans, progress, results and tools at EU-level workshops, ensuring timely inputs to WFD-CIS groups and to the Nature and Biodiversity-CIF (Common Implementation Framework) working group MAES (DG ENV workshops, WFD-CIS-workshops, MAES workshops)
  - Dialogue with DG ENV and EEA on WFD revision, e.g. on linking ecosystem services to agreed ecological status indicators, incl. water quantity and optimising measures to ensure good water status



- Overview of national stakeholders with interest for MARS plans and products will be collated at the start of the project
- Additional target groups (see section 3 above):
  - Wiki
  - Blog
  - Fact sheets with maps and figures summarising main results
  - Scientific conferences: a list of relevant scientific conferences will be collated.

MARS will also exchange the communication strategy with other relevant EU projects, e.g. REFORM, OpenNESS, GLOBAQUA and SOLUTIONS, to facilitate the planning and implementation of joint communication efforts towards common target audiences.

### 2.4 Main communication and dissemination tasks and activities

The main communication and dissemination tasks are given in figure 1 below.



Figure 1. Main communication and dissemination tasks in MARS.

The main activities and work plans in each task are given in the following sections.



#### Task 8.2. Advice to River Basin Managers

The main activities of this task are:

- Guidance to river basin managers for the 3<sup>rd</sup> cycle of RBMPs
- Tailored workshops with river basin managers at local, regional and national levels
- Mid-term meeting to disseminate preliminary results from all WPs, to receive feedback from the stakeholders and discuss how to further streamline the MARS outputs and tools to meet needs for the 3rd cycle of RBMPs.
- MARS final conference

These activities will be organized according to the work plan in Table 1.

Table 1. Work plan for task 8.2. Advice to River Basin Managers.

Mark itom	Partners,	Outcomo	Delivery
WORK ILEIT	persons	Outcome	date
National stakeholder workshops, including essential questions to river basin managers	All WP8.2 partners	MARS presentations providing plans and preliminary results Minutes	continuous
Mid-term meeting with river basin managers co- organised by the ICPDR and BMLFUW (but open to all European countries)	BOKU (Rafaela Schinegger) UDE, AZTI, DELTARES, FVB- IGB, IZVRS-UL, NERC, NIVA, NTUA, SYKE, APA, BMLFUW, EA, NARW	Aim: discuss preliminary results and outline of guidance (see below) How: World café method Who: national and regional river basin managers) Minutes from meeting	Month 25-26 (FebMarch 2016) Month 27 (April 2016, minutes)
Guidance for river basin managers	BOKU (Rafaela Schinegger) UDE, AZTI, DELTARES, FVB- IGB, IZVRS-UL, NERC, NIVA, NTUA, SYKE, APA, BMLFUW, EA, NARW	Outline should include: Feedback from local RBMs in WP4 case studies on status, services and PoMs, What info do they need? Multiple pressures? How to link Ecosystem services to ecological status? How to link ecological status with programme of measures? Essential data needed for tool development and decision making? Links to 7.1 wiki, 6.4 and OpenNESS project on Ecosystem services (Kurt Jax) <b>D8.2 Final guidance</b>	April, 2014 (outline) Month 28 (May 2016, Draft version) Month 40 (May 2017, Final version)
Planning of mid- term MARS	NIVA (Anne Lyche Solheim)		Month 18
partners meeting (back-to-back with	BOKU (Rafaela Schinegger).	Mid-term partners meeting circular	
mid-term meeting with river basin managers?)	UDE (Daniel Hering, Sebastian Birk)	Mid-term partners meeting	Month 25-26



Work item	Partners, persons	Outcome	Delivery date
Planning of final conference, incl. training course for river basin managers on MARS tools. Alternative: separate training courses for river basin managers in the 16 case study catchments	NIVA (Anne Lyche Solheim) UDE (Daniel Hering, Sebastian Birk) EMU (Tiina Nõges, Peeter Nõges) DELTARES (Harm Duel, Tom Buijse)	Final conference, first circular Final conference, second circular <b>MS21</b> : Final conference circular	Month 36 Month 40 Month 46 (Nov. 2017)

Table 1 (cont.). Work plan for task 8.2. Advice to River Basin Managers.

### Task 8.3 Interactions with the WFD-CIS groups and MAES

The main activities of this task are:

- Attending selected workshops of the most relevant WFD-CIS groups (ECOSTAT, Eflows, Programme of Measures, Groundwater, Floods, Data and Information Sharing) and the freshwater group of MAES for presenting and discussing MARS plans and results. Cooperation with other CIS groups will be facilitated through other projects, such as SOLUTIONS (WG chemicals).
- Cross cutting meeting with all relevant WFD-CIS groups leads (chairs, co-chairs, DG ENV) to discuss integration of MARS in their work programmes and meeting agendas.
- Provide inputs to relevant WFD-CIS and MAES documents.

Table 2 shows the MARS partners responsible for contact with the most relevant WFD-CIS working groups (Figure 2) and MAES. The work plan for the activities to be conducted in this task is outlined in table 3.

Working group*	Partner name	Responsible person
Ecostat, incl. E-flows	JRC/NIVA/SYKE	JRC: Ana Cristina Cardoso, Núria Cid, Wouter van de Bund NIVA: Anne Lyche Solheim SYKE: Seppo Hellsten (E-flows, mainly 2014), REFORM (Tom Buijse) is organising a workshop on E-flows
PoMs (incl. group on natural water retention measures?)	<b>UDE</b> , DELTARES	<b>UDE: Daniel Hering</b> , DELTARES: Tom Buijse
Groundwater	NERC, DELTARES CHMI	NERC: Rob Ward, DELTARES: Hans Peter Broers, CHMI: Vit Kodes

Table 2. MARS partners responsible for contact with the relevant WFD-CIS working groups and MAES



Table 2 (cont.). MARS partners responsible for o	contact with the relevant	WFD-CIS working groups and
MAES		

Working group*	Partner name	Responsible person
Floods	UL, EA	UL: Lidija Globevnik EA: name to be provided by Alwyn Hart
Reporting (DIS)	<b>NTUA</b> , EEA (Advisory Board)	NTUA: George Karavokiros EEA: Peter Kristensen
Water Directors	HMUELV, Germany (Advisory Board)	Stephan von Keitz
MAES	JRC	Ana-Cristina Cardoso

\* HyMo related work across the CIS Working groups may be reorganised /streamlined

Table 3. Work plan for task 8.3. Interactions with WFD-CIS groups

Work item	Partners and persons	Outcome	Delivery date
Check chairs, work programme and meeting plans for each of the relevant working groups	See table above	<ol> <li>A list of chairs and co-chairs for the relevant working groups</li> <li>A list of relevant workshops to be attended</li> <li>A list of relevant work items to be interacting with</li> </ol>	June 2014
Meeting DG ENV	<b>UDE</b> (Daniel Hering, Sebastian Birk)	Minutes with overview of most relevant topics of interest for the MARS/CIS-group interface, specified for each CIS-group	March 2014
Match MARS deliverables with relevant groups' timetables to identify potential contributions to documents in preparation	<b>JRC</b> (Ana Cristina, Núria Cid)	List of relevant MARS deliverables in relation to policies implementation activities	June 2014
Inputs to 'guidance' documents, including input to WFD revision (see 8.4)	<b>JRC</b> (Ana Cristina, Núria Cid)	<b>MS 20</b> : Inputs to WFD CIS and MAES related documents	Continuous, but latest Month 46 (Nov. 2017)





Figure 2. WFD-CIS Working group structure agreed for the years 2013-2015

### Task 8.4 Inputs to WFD revision

The main activities of this task are:

- Discussion paper in the first 12 months of the project based on brainstorming among MARS partners
- Policy briefs communicated to CIS groups, focusing on gaps and weaknesses of the current WFD, emerging from previous EU projects and from national experiences with implementation barriers, and present ideas for improvements (OOAO, links between ecological status and ecosystem services, integration of aspects of climate change, water scarcity, floods, MFSD)
- Targeted Interviews with specific individuals:
  - DG ENV & consultants
- Final paper/guidance (Del.8.3/Milestone 19, Month 43 (Aug 2017))

MARS will make joint efforts with REFORM (HyMo/E-flows), OpenNess (Ecosystem services), GLOBAQUA (Water scarcity) and SOLUTIONS (chemical status) to get a more integrated approach to the revision process. All steps addressing potential input to the WFD revision will be considered as to whether there is actually a need to revise the directive or if inputs could be facilitated through the CIS process.

Table 4 below outlines the work plan for the activities of task 8.4.

Work item	Partners and persons	Outcome	Delivery date				
Discussion paper, incl. inputs from MARS partners and other relevant EU projects	UDE (Daniel Hering and Sebastian Birk) NERC (Laurence Carvalho and Rob Ward) JRC (Ana Cristina Cardoso and Núria Cid) NIVA (Anne Lyche Solheim) DELTARES (Tom Buijse and Harm Duel) NTUA (Yiannis Panagopoulos) IRSTEA (Christine Argillier)	Discussion paper	January 2015				
Meetings with DG ENV and consultants	UDE/JRC/NIVA/NERC and others	Minutes (input to policy briefs and review paper)	Start in March 2014				
Interviews / Meetings with other key projects and scientists	UDE (Sebastian Birk) and many others	Key messages (input to policy briefs and review paper)	2014-2015				
Literature review	NERC (Laurence Carvalho) and many others	Review paper, incl. outputs from work items above	Month 24 (Jan 2016)				
Policy briefs communicated to CIS groups	UDE (Sebastian Birk and Jörg Strackbein) and many others	Policy briefs, incl. outputs from work items above	Continuous, depending on CIS schedules				
Synthesis paper on WFD revision	NERC (Laurence Carvalho) and many others	<b>MS19</b> Guidance document <b>D8.3</b> Synthesis paper	Month 43, (aug. 2017, MS19) Month 44 (sept. 2017, D8.3)				

Table 4. Work plan for task 8.4. Input to WFD revision

### Task 8.5 Cross-cutting communication

The main activities of the MARS cross-cutting communication task are:

- External website development
- Products common identity but generalised names without project names e.g.
  - "Freshwater Blog" (based on the BioFresh Blog)
  - o "Freshwater Wiki" (based on the FORECASTER / REFORM wiki)
  - "Freshwater Atlas" (short for Global Freshwater Biodiversity Atlas)
  - o "Freshwater Glossary"
- Fact sheets visualising key results in user-friendly maps and figures
- Interviews with key scientists and key stakeholders
- Policy briefs targeting different stakeholder groups



• Exchange of information with GLOBAQUA, Solutions, openNESS and other relevant EU projects

The activities explained above will be organized according to the work plan in Table 5.

Table	5	Work	plan	for task	8.5.	Cross-cutting	communication.
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Work item	Partners and persons	Outcome	Delivery date
External website: design and improve website based on feedback at kick-off	<b>UDE (Jörg Strackbein</b> , Daniel Hering, Sebastian Birk) NIVA (Anne Lyche Solheim)	<b>MS18</b> : External website with user- friendly interface	March 2014
Blog development based on BioFresh	<b>UDE (Rob St. John,</b> Jörg Strackbein, Sebastian Birk) BOKU (Astrid Schmidt-Kloiber)	Freshwater Blog	March 2014
Interviews	<b>UDE (Christian Feld,</b> Jörg Strackbein)	Videoclips with interviews available on external website	Start March 2014
Policy briefs incl. key messages	<b>UDE (Christian Feld,</b> Sebastian Birk)	D8.1. Policy briefs	Months <b>24</b> (D8.1), 36, 48
Fact sheets with key MARS results, see ideas for visualization above	<b>UDE (Christian Feld,</b> Sebastian Birk)	<b>D8.4.</b> Fact sheets with good illustrations,	Months <b>18</b> , 26, 48
Exchange of information with GLOBAQUA and other relevant EU projects	NIVA (Anne Lyche Solheim) UDE (Daniel Hering)	Inputs from other projects to MARS products and vice versa (to be further discussed)	Continuous



### 2.5 Timing of the dissemination and communication activities

Table 6 below summarizes the schedule of key communication and dissemination activities throughout the lifetime of MARS. This schedule will be regularly updated, bearing the development of the project in mind.

-	•																
Year		20	)14			20	)15			20	)16			20	)17		2018
Key activity	Ι	П	Ш	IV	Ι	П	Ш	IV	I	П	Ш	IV	Т	Ш	Ш	IV	I
Kick-off workshop	Feb																
Stakeholder workshops (WP4)							Tir	ning	to be	defi	ned						
Web-site	Mar																
Blog		May															
Interviews	Feb						Tir	ning	to be	defi	ned						
WFD-CIS and MAES meetings							Tir	ning	to be	defi	ned						
Discussion paper on WFD revision		Tin	ning t	o be	defir	ned											
Fact sheets							Jul		Mar								Jan
Policy briefs									Jan				Jan				Jan
Mid-term meeting									Feb								
Guidance for managers														Jun			
Paper/guidance on WFD revision															Sep		
Final conference																Dec	

 Table 6. Schedule of the key communication and dissemination activities

### 2.6 Role of MARS Advisory board

The Advisory Board is the main external advisory body and consists of independent persons representing international and national stakeholders or stakeholder organisations including river basin managers.

The Advisory Board will provide knowledge and experience from practical and policy points of view and will position the results of the project in the context of integrated river basin management. It will also provide guidance on the direction of the research activities in relation to stakeholder requirements.

The Advisory Board and the MARS partners will connect MARS to other ongoing projects and activities in order to tune, compliment, and support each other's work. Concrete examples are e.g. national or regional stakeholder workshops, relevant WFD CIS groups and EEA activities, and the European Centre for River Restoration (ECRR). In addition the Advisory Board will announce MARS in relevant bodies and support the dissemination of its outcome.

The Advisory Board will be invited to attend the annual task leader meetings, as well as the major mid-term and final conferences to give feedback and recommendations to improve the realization of MARS and the adoption of its results. As part of the agenda there will be a joint meeting of the Advisory Board and the MARS Project Board.



### 2.7 Success measures of dissemination and communication

It is important to set some performance indicators for the success of MARS's communication & dissemination strategy in order to know if it is achieving its aims.

For certain activities, indicators will be measured centrally by NIVA (responsible for communication and dissemination) and UDE (project coordinator).

A summary of the indicators to be monitored is shown in Table 7.

In addition, all partners should use the web-portal to list every relevant dissemination activity where MARS is presented or where MARS takes part in the organisation. The coordinator UDE will inform all partners how to record these activities.

It is proposed to re-visit the communication and dissemination strategy of MARS at each annual plenary project meeting in order to evaluate achievements of previous years and agree on the key elements of communication and dissemination in the years to follow.



Activity	Success indicator
Website, incl. blog and wiki	Average no. visitors /month Level of satisfaction with the website, blog and wiki
	No. of workshops organized (when, where)
	No. and type of attendees (academics, user communities,
	decision makers)
Stakeholder workshops with local	Photos/videos of the event
river basin managers (WP4), Mid-	Coverage of main topics
Term meeting with national and	Feedback received from participants on feedback
regional river basin managers and	sheets/slips handed out at MARS events covering:
Final conterence	- The appropriateness of target audience(s)
	- The appropriateness of dissemination means
	- Readiness for use
	- Potential use of project outputs
	Guidance available and distributed to key stakeholders
Guidance for river basin managers	reedback received from target group on usefulness of
	guidance
	NO. OF WORKSNOPS Attended, no. of MARS presentations
WED-CIS workshops and interactions	No. of WED-CIS group representatives attending MARS
	meetings
	No. of WFD-CIS guidance documents using MARS inputs
	No. of fact sheets and policy briefs produced
	No. of stakeholders receiving the fact sheets and policy
Fact sheets and policy briefs	briefs
	Feedback received from target groups on usefulness of
	guidance
	Discussion paper and final paper published
	No. of meetings with DG Env and other stakeholders
Inpute to MED revision	discussing the WFD revision
	Draft WFD revision documents reflecting MARS inputs
	(yes, some, no)
	Nome of neuronanar journal, magazine
Interviews of MARS partners with	Name of radio or television channel
magazines, newspapers, radio, TV	Interview date
	Person interviewed
	No. of publications submitted and accepted
Publications (scientific articles)	No. of papers produced that were presented at external
	scientific conferences

#### Table 7: Success indicators for the MARS communication & dissemination strategy



### 2.8 Visual identity

### Project logo and colours

The distinctive logo developed for the MARS project is given below.



### Templates

- A "slide presentation template" (in MS PowerPoint format) has been designed with incorporated logo. All internal and external presentations of MARS work will use this MS Powerpoint template.
- In addition, a report template (in MS Word format) has been produced in March 2014, to be used for all MARS deliverables. Each deliverable of MARS should have a maximum 2-page management summary written in jargon-free language (fit for dissemination to the general public and policy makers). The communication and dissemination strategy at hand has been written using the deliverable template.

The templates are available on the MARS intranet in the WP1 folder.

### 2.9 Acknowledgement of EU funding

All dissemination activities and publications in MARS (including project reports, peer-reviewed scientific publications, articles in magazines etc.) should include the following statement (from GA annex. II.30.4):

"This work is part of the MARS project (Managing Aquatic ecosystems and water Resources under multiple Stress) funded under the 7th EU Framework Programme, Theme 6 (Environment including Climate Change), Contract No.: 603378 (<u>http://www.mars-project.eu</u>)."

When displayed in association with the MARS logo and partner logos, the European emblem should also be given appropriate prominence (see front page of this document).



### 3. Outline and structure of external contents of the website

### MARS Webpage

The project website (<u>http://www.mars-project.eu</u>) has been set up using latest web technologies, following Section 508 standards and the Web Content Accessibility Guidelines (WCAG).



The website includes a restricted intranet area (<u>http://www.mars-project.eu/intranet</u>), which is used by the consortium as a central storage and exchange platform for all project relevant files and documents. It also provides internal information and documents for the advisory board.

Members from cooperating projects will be granted access to (parts of) this facility. End users can be allowed to access relevant information and documents if appropriate.

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On the website an overview of the project, its approaches, challenges and background is presented, beside outcomes, first results and deliverables. A series of interviews, as articles and videos (six interviews so far), with members of the MARS consortium and scientists from partner projects, introduces the people who work behind the scenes. New interviews will be continuously added.



One section of the website is the "glossary of terms" (<u>http://www.mars-project.eu/index.php/glossary.html</u>), an overview of often used expressions. This section will also be continuously updated and cross-linked with other projects (see cooperation with OpenNESS, Chapter 1, part D).

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Within the EU funded project BioFresh, a blog was started with a wide range of topics around water, freshwater and aquatic life. In 2011 it was listed by Nature as one of the 'recommended conservation blogs'. This blog is now continued by the MARS project. In April 2014 the blog has broken the barrier of 100,000 readers (in total since 2010). The average number of readers is



between 2,000-3,000 per month, in May 2014 more then 7,300 people were reading the blog posts.



A journalist with biological background was hired to brush up the scientific texts and contents for a broad public. Scientists from the partner projects OpenNESS, SOLUTIONS and GLOBAQUA were invited to feed content into the blog, the first article about the SOLUTIONS project was already published in June 2014.



A tool for video conferences has been set up together with a user manual, which is being used for virtual meetings up to 12-15 people.



### 4. Outlook on the Freshwater Information Network/Platform

Most websites and services from EU funded projects are fed and maintained during the lifespan of the respective project only. As a result valuable information is widespread and indefinitely distributed across the internet. Some of the products developed within research projects need a relatively long initializing phase to reach their "critical mass" of interested parties, but at the moment they attract attention the project might already be finished. With the concept of a freshwater information platform we aim for a long term, sustainable solution which can be handed over from project to project or which could be EU-funded on its own.

Within the EU project BioFresh the "BioFresh information platform" was established, bringing together information and data on freshwater biodiversity in a clearly arranged and easily explorable way (http://www.freshwaterbiodiversity.eu). In respect to MARS several parts of the BioFresh information platform turned out to be very useful, e.g. the Blog is continued and maintained within MARS. The portal, the metadatabase and the atlas will be further used as outlets of MARS results.

Additionally, the EU project REFORM will contribute its wiki system for further development in MARS (http://wiki.reformrivers.eu).

The idea is to transform the BioFresh information platform within MARS to a general information platform for the freshwater scientific community (as "the network for global freshwater scientists") including relevant results and tools form various EU funded projects. This would guarantee sustainability of already archived goals and further maintenance of the established tools.



Tentative entry page for the Freshwater Information Platform



Beside the presentation of freshwater relevant tools, the information platform will also link to freshwater related EU projects keeping up their own designs and domain names (but also with the option to be integrated part of the platform for upcoming projects if wanted).

Funding the platform by EU projects will require the commitment to contribute to it already during the proposal writing stage. Projects providing the current funding of the information platform will be named in a prominent place. Finished projects that provided funding will be listed in a dedicated section 'Freshwater Information Platform Supporters', allowing also donors not necessarily being projects to be named and acknowledged.